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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,832	12/21/2001	Rod Fensom	27581/99215	4938

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EXAMINER

GIMIE, MAHMOUD

ART UNIT PAPER NUMBER

3747

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DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/036,832	FENSOM ET AL.
	Examiner Mahmoud Gimie	Art Unit 3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 21 December 2001.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 and 10-19 is/are rejected.
- 7) Claim(s) 9 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 21 December 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2,3</u> .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,4,12,13,14 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Barnert (3,934,564).

Barnert discloses an exhaust gas recirculation valve comprising: an exhaust passage tube (2,3,5,6); a valve element (11,26) pivotally mounted within the exhaust passage tube; a linear actuator (31,41,51); and a gear train including a rack gear (column 3, lines 45-47) operatively connected to the linear actuator, the rack gear adapted to move in a substantially linear direction upon activation of the linear actuator, and at least one rotatable gear (39,49) meshing with the rack gear and operatively connected to the valve element (11,26) to cause rotation of the valve element upon actuation of the linear actuator.

With regard to claim 4, the rack gear includes teeth disposed on a rod (38,48) directly driven by the linear actuator (31,41,51).

With regard to claim 12, the gear train includes a plurality of rotatable gears (49,53).

With regard to claim 13, the rack gear is disposed along at least a portion of the length of the actuator rod (38,48).

With regard to claim 14, an exhaust gas recirculation valve comprising: an exhaust passage tube (2,3,4,5,6) having a first axis; a valve element pivotally mounted within the exhaust passage tube; an apparatus (31,41,51) adapted for linear movement along a second axis substantially parallel to the first axis, the apparatus adapted for linear movement along the second axis adapted to be selectively activated; an actuator rod (38,48) directly driven by the apparatus adapted for linear movement along the second axis, the actuator rod adapted to move in a substantially linear direction upon activation of the apparatus adapted for linear movement along the second axis; and a gear train including a rack gear, disposed along at least a portion of the length of the actuator rod, and at least one rotatable gear (49,53) meshing with the rack gear, the rotatable gear being operatively connected to the valve element and adapted to cause rotation of the valve element upon actuation of the apparatus adapted for linear movement along the second axis.

With regard to claim 18, a method of actuating an exhaust gas recirculation valve, the method comprising the steps of: energizing (column 3, lines 23-24) a linear actuator; moving a rack gear operatively connected to the linear actuator; and rotating at least one rotatable gear operatively connected with a valve element to thereby rotate the valve element.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-8,10,11,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnert (3,934,564) in view of Kreuter et al (4,794,847).  
Barnet discloses all the limitations as applied to claims 1,4,12-14 and 18 above except for an adjustable stop mechanism and return spring.

Kreuter et al disclose an adjustable stop mechanism (53) and a return spring (54). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use an adjustable stop mechanism as shown by Kreuter et al to adjustably stop the actuator rod (s) (48,52) of Barnet. The motivation to do so would have been to precisely control the valve, see Kreuter et al column 3 and line 60.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnert (3,934,564).

Barnert discloses all the limitations as applied to claims 1,4,12-14 and 18 except the actuator being a solenoid. However, Barnert teaches that the device may be any conventional type having pneumatic, hydraulic or electric drive, column 3 and lines 23-24.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a conventional electrical device such as a solenoid to linearly actuate the drive shaft as suggested by Barnert. The motivation to do so would have been to simplify the control mechanism.

6. Claims 2,3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnert (3,934,564).

Barnert discloses all the limitations as applied to claims 1,4,12-14 and 18 above except for alternative mounting and stop mechanism.

At the time the invention was made; it would have been an obvious matter of design choice to a person of ordinary skill in the art to mount the actuator on the exhaust tube or use a stop lever as a stop mechanism because applicant has not disclosed that such alternatives provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, further, would have expected applicant's invention to perform equally well with an exhaust control valve as shown by Barnert because it provides an apparatus for converting an operating parameter of an engine into a mechanical regulating movement.

#### ***Allowable Subject Matter***

7. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references show control valves.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahmoud Gimie whose telephone number is 703-305-1037. The examiner can normally be reached on 7 a.m. -3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 703-308-1946. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.



M Gimie

Mahmoud Gimie  
Primary Examiner  
Art Unit 3747